# IQXO-35, -36 Industrial Oscillator

# **ISSUE 5; 19 OCTOBER 1999**

# **Delivery Options**

Please contact our sales office for current leadtimes

## **Output Compatibility**

- HCMOS/TTL
- Drive Capability: 50pF or 10TTL
- Non tri-state (IQXO-35)
- Tri-state (IQXO-36)

#### **Package Outline**

 8-pin DIL compatible resistance welded enclosure, hermetically sealed with glass to metal seals and high environmental performance

## **Standard Frequency Stabilities**

■ ±25ppm, ±50ppm, ±100ppm (over operating temperature range)

# Frequency Tolerance @ 25°C (Optional)

■ ±5ppm, ±10ppm, ±25ppm

#### **Operating Temperature Range**

■ -40 to 85°C

# **Storage Temperature Range**

■ -55 to 125°C

## **Environmental Specification**

- Acceleration: 490m/s² for 1 minute in the 'Y₁' plane
- Bump: 4000 bumps at 390m/s<sup>2</sup> in each of the three mutually perpendicular planes
- Hermetic Seal: not to exceed 1 x 10<sup>-8</sup> mBar litres of Helium leakage
- Humidity: steady state: in accordance with test Ca of IEC 60068-2-3, for 56 days at 40°C at a relative humidity of 93%, cyclic: in accordance with test Db variant of IEC 60068-2-30, at severity b), 55°C for six cycles
- Shock: 981m/s² for 6ms, three shocks in each direction along the three mutually perpendicular planes
- Solderability: BS2011 test TA
- Rapid Change of Temperature over Operating Temperature Range: 10 cycles.
- Vibration: 10 to 60Hz 0.75mm displacement, 60 to 2000Hz 98.1m/s² acceleration, 30 minutes in each of three mutually perpendicular planes

# Tri-state Operation (IQXO-36)

- Logic '0' to pin 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state
- No connection or Logic '1' to pin enables oscillator output
- Maximum 'pull-down' resistance required to disable output =  $20k\Omega$
- Disable current 50µA typical

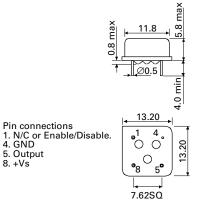
#### Marking

- Model number
- Frequency Stability Code
- Frequency Tolerance Code (Optional)
- Frequency
- Date Code (Year/Week)

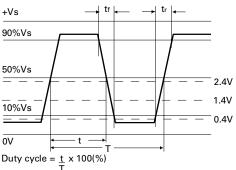
#### Minimum Order Information Required

■ Frequency + Model Number + Frequency Stability

# Outline in mm



# Output Waveform - HCMOS/TTL



# Electrical Specifications - maximum limiting values when measured in HCMOS test circuit.

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time(t <sub>r</sub> )	Fall Time(t <sub>f</sub> )	Duty Cycle	Model Number
500.0kHz to < 5.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	20mA	15ns	15ns	45/55%	IQXO-35, -36
5.0 to < 16.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	20mA	10ns	10ns	45/55%	IQX0-35, -36
16.0 to < 30.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	30mA	10ns	10ns	45/55%	IQX0-35, -36
30.0 to < 50.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	40mA	8ns	8ns	45/55%	IQX0-35, -36
50.0 to 70.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	50mA	6ns	6ns	40/60%	IQX0-35, -36

Ordering Example

Frequency

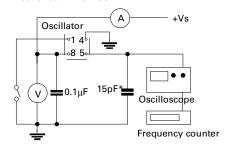
Model number -35 = Non tri-state, -36 = Tri-state

Frequency Stability: A = ±25ppm, B = ±50ppm, C = ±100ppm

Frequency Tolerance @ 25°C: D = ±5ppm; E = ±10ppm; F = ±25ppm

Please note: Code combination A F is not available

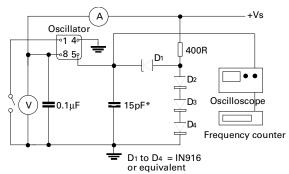
# **Test Circuit - HCMOS**



\*Inclusive of jigging & equipment capacitance

Note: Pin 1 = No connection on non tri-state models

# Test Circuit - TTL



\*Inclusive of jigging & equipment capacitance

Note: Pin 1 = No connection on non tri-state models